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THESIS

A MODEL FOR EFFECTIVE PERFORMANCE
IN THE INDONESIAN NAVY

by

Ishak Latuconsina

June 1987

Thesis Advisor: R. A. McGonigal

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A Model for Effective Performance in the Indonesian Navy

by

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Lieutenant Commander, Indonesian Navy
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ABSTRACT

This thesis describes a process of designing a management competency development model for the Indonesian Navy. Competency is used here as skill, knowledege, characteristic or attitude which differentiate effective from ineffective manager. In the process of building the model two main steps are taken. First, a literature study of the empirical analysis of management competencies was conducted to identify management competencies in the United States in general and the US Navy in particular. Second, a pilot study was conducted using ECHO, a projective survey technique, to identify the "cultural-bound" management competencies in the Indonesian military environment. The sample used in this pilot study was thirteen Indonesian Officers who study at the Naval Postgraduate School in Monterey, California. Combining the findings from the two studies, an integrated model of management competency for the Indonesian Navy was developed.

A competency acquisition process is presented in the hope that it can be used as a guide line in designing a training program for management competency development in the Indonesian Navy.

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I. INTRODUCTION

A. GENERAL

The Indonesian Navy, as an integral part of the Indonesian Armed Forces, has a multi-faceted mission to accomplish. The Navy must implement the policy of the Armed Forces Commander by managing the naval forces as a defense and security force as well as a social force. As a defense and security force, the Indonesian Navy should be able to safeguard the Indonesian territory from any potential threats. As a social force, the Indonesian Navy should be able to take an active part in successful national development.

In keeping up with the mission in securing national territory and meeting the changing quality of threats due to technological advancement in the world military weapon systems, the Indonesian Navy embarked on its 20 years expansion plan in the early1980s. This major expansion plan, when it is fully realized, will provide the Navy with new, modern and sophisticated naval weapon systems, with the main emphasis on the substantial increase in the number and quality of the warships as a backbone of the overall systems.

Under the plan, fast A/S frigates, submarines, fast attack craft, mine warfare forces, fast supply ships, maritime patrol aircraft are procured from several different countries such as, the United States of America, England, Nethelands, West Germany, Yugoslavia, and South Korea [Ref. 1].

However, as the new weapon systems gradually started to fill the Indonesian Naval force inventory, the world economy suffered from the recession which affected the Indonesian economy. After experiencing strong growth in the eight percent range during 1970s, 9.6 percent growth in 1980, and 7.6 percent in 1981, the National economic growth slowed to a mere 2.25 percent during 1982 [Ref. 2]. Although the slowdown of the National economic growth did not affect the Navy expansion plan directly, as a major consumer in the economy, the slowdown meant that the Navy had to operate within the condition of scarcity.

A new management orientation of naval officers in every job level is necessary if the Navy is to allocate its limited resources efficiently and effectively. Even in the era of modern and complicated weapon systems, attention to the technical side of the job

is not enough. The human element remains vitally important, (to which military managers should pay close attention), since the ultimate success in military actions lies with people. The most sophisticated weapon systems can not operate without human intervention.

To provide technical skill to operate the new weapon systems, along with the weapon systems procurement process, the Indonesian Naval Training command conducted technical training to enlistees and officers assigned to the new systems. In doing that the Naval Training Command signed a contract with Holland's Signal Apparatur in Hengelo (HSA) Holland to provide the training. The contract contained the plan to improve the existing instructional packages and training aids in the Naval Training Command in Surabaya, Indonesia.

What remains to be done is to provide the Indonesian Naval Officers with the sufficient and necessary leadership and managerial skills which emphasize on effective performance of the officers in managing the human resources under their command and supervision. By effective performance we mean officers who not only know about management theories, but who possess the characteristics, knowledge, skill, and attitudes of superior performers in doing their jobs. Traditional management styles associated with the old weapon systems are not going to work with the new technology which requires faster and more accurate human responses in maintaining the high state of readiness of the modern and sophisticated weapon systems. Unless the human element of the systems is properly managed, the operable state of the new weapon systems is in question.

Given that the Indonesian Navy needs effective performers as military managers, we may ask what makes good navy managers? In other words, what are the criteria which differentiate effective or superior performers from average military managers? Furthermore, given that one has the criteria at hand, can naval officers be trained to acquire those criteria, so that they become effective or superior performers in their jobs?

These two questions bring us to the notion of management competencies, introduced by the American Management Association back in 1970 (detail descriptions of the development of management competency in America is given in Chapter II).

Competency is the answer to the first question, what makes superior managers. Military managers who possess and put competencies into actions differentiates them from the average managers.

The answer to the second question is "yes". Naval oficers can be trained to acquire the management competencies in question. The US Navy's Leadership and Management Education and Training is an excellent example of how the US Naval officers and chief petty officers are trained to become effective performers using competencies as a basis of training.

B. PURPOSE AND SCOPE OF THE THESIS

The purpose of this thesis is primarily to build a management competency model for the Indonesian Naval officer at the department head level. Based on the model, an outline of the acquisition process of competency in training for the Indonesian Naval officers is discussed.

In building the management competency model, we used two methodologies. First, we made a literature study of competency-based management training in America. We extracted competencies which are applicable to the Indonesian Navy environment.

Second, we conducted competency assessments using the ECHO projective survey technique to elicit competencies from a sample of 13 Indonesian Officers at the Naval Postgraduate School in Monterey, California.

Combining the outcomes of the two methods we come up with an integrated management competency model for the Indonesian Naval Officers.

This thesis is organized in five chapters. Chapter I, Introduction; Chapter II, Competency-based Management Training in America; Chapter III, A Pilot Study: Management Competency Assessment for the Indonesian Navy; Chapter IV, Integrated Competency Model for the Indonesian Navy; and Chapter V, Conclusion and Recommendations.

II. COMPETENCY-BASED MANAGEMENT TRAINING: A LITERATURE REVIEW

The purpose of this chapter is to explore the empirical studies in building models of management competency as a basis for conducting management training in America. The old ways of conducting management training where management theories abound, and heuristic management competencies were taught, has been replaced by training based on the empirically studied management competencies which really make the difference between effective and ineffective managers.

In this chapter we will try to identify the management competencies which were defined and studied empirically in the United States, and presumably can be applied in management practices not only in America, but in other countries as well, particularly in Indonesia. In Chapter IV, the results of this literature review will be combined with management competencies extracted from the Indonesian Officers in a pilot study presented in Chapter III, to become a model of management competencies for the Indonesian Navy.

This chapter is organized in four sections. Section 1, Introduction; Section 2, review of management competency model developed by the American Management Association; Section 3, review of the US Navy Leadership and Management competency model; Section 4 reviews the McBer competent managers model; and Section 5 is the summary

A. INTRODUCTION

Empirical studies to identify competencies as a basis for management training are relatively new. The first study was done by American Management Association in 1971. Subsequent studies have been conducted by McBer and Company, a Boston based consulting firm for its various clients. The new nature of this kind of study was revealed by James L. Hayes the President of American Management Association (AMA):

> "...Our research is practical. We can test a manager against it tomorrow and measure just what competencies he or she possesses. More importantly, we can then direct managers into activities that will develop the competencies in which they are weak. The outcomes of the competency measurement process can also be used by management for recruitment, selection, promotion, merit

appraisal.....and training. To the best of our knowledge nothing like this exists anywhere else today." [Ref. 3: p 2].

These studies have at least two things in common. First, they were both conducted using the job competency assessment method, which was developed by the staff of McBer and Company (the initial method was developed by David C. McClelland in 1958). Second, they both involved McBer and Company. The leading member of the AMA study group was one of the McBer staff.

Another study worth mentioning here was done by Dr. Richard E. Boyatzis and summarized in his book *the Competent Managers: a Model for Effective Performance.* He is one of the McBer and Company staff, and also was the leading member of the research group that helped develop the AMA competency model of successful manager mentioned above. Boyatzis, with the collective effort of other professionals using the available raw data of McBer's studies, came out with his own model of competent managers.

The three studies seemed to be intertwined with each other, with the McBer and Company as the focal point. We will review the three studies in the followings sections.

B. AMA MODEL OF SUPERIOR PERFORMANCE

In 1971 the AMA funded a study to build a competency model for successful managers. AMA was concerned with "worthy performance" rather than "genius" managers [Ref. 3: p.3]. Worthy performance was the term used by Thomas S. Gilbert in his book *Human Competence* [Ref. 4]. He defined competence as "a function of worthy performance." According to Gilbert, competent people are those who can create valuable results without using excessive costly behavior. The true value of competence is derived from accomplishment not from behavior [Ref. 4: p.18].

AMA studied more than 1,800 "real managers" over a five year period, by using standard of performance for each manager's job, and produced a criterion-validated model. This was derived by reanalyzing all 1,800 jobs to discover the competencies that were generic, that is common to all managerial jobs being studied. These generic competencies were then assembled to become the AMA managerial competency model. AMA claimed that its research, which was accomplished with the great professional help of McBer and Company of Boston, was different from research based upon theory, expert panel, job analysis, Delphi or other methods that are not tied to the standard of performance for real managers.

AMA defines competencies as generic knowledge, motives, traits, self-image, social role or skills of a person that are causally related to superior performance on a job. In accordance with this definition AMA's research focused on what managers do, and as the results came in the AMA identified four management competency clusters. They are: [Ref. 3: p.3]

Entrepreneural Cluster. This cluster contains two competencies: efficiency orientation and proactivity. *The Efficiency orientation* has a continuing interest in doing things better, and thus, with the best combination of resources. *Proactivity Competency* is the initiation of action and direct tasks.

Intellectual Cluster, this second cluster includes logical thought, conceptualization and diagnostic use of concepts. *Logical Thought* defines the competency of placing events in meaningful sequence. *Conceptualization* defines a way of thinking in which managers assemble information or create seemingly unrelated events into a pattern. *Diagnostic use of concept* is the competency of putting situations or decisions into known theories or models, or quickly developing one if no handy format is available.

Socio-emotional Cluster. This third cluster describes self control, spontaneity, perceptual objectivity, accurate self-assessment, and stamina and adaptability. *Self-control*, for example, places organizational needs above personal needs. *Spontaneity* exists when a person expresses himself or herself freely and easily even if not effectively. *Perceptual objectivity* is the ability to present contrasting points of view so skillfully that it is impossible to detect which side of the arguments he or she favors. *Accurate self assessment* is awareness of strength and weaknesses, with a willingness to seek help in identifying them. *Stamina and adaptability* is the ability to cope with variances without materially changing behavior or decision making efficiency.

Fourth, *Interpersonal Competency Cluster.* This fourth cluster contains eight attributes: self confidence, developing others, concern with impact, use of unilateral power, use of socialized-power, use of oral communication, positive regard, and managing group processes. *Self-confident* managers know what they are doing, and have high self esteem. *Developing others*, is an attribute that goes far beyond the simple arts of giving feed-back. Superior managers regard helping others as an essential part of their job, as a coach, counselor, and helper. *Concern with impact* is consciousnes of every detail that will help managers influence a group. *Use of unilateral power* is the ability to exercise an interpersonal competency to get others to go along with his or her directions, commands, policies and procedures. *Use of*

socialized power is the ability to develop a network and build alliances, teams, and models of success for others to imitate. *Use of oral communication* is the ability to speak effectively. *Positive regard* is strong belief in other people, and the belief that people are good. *Managing the group processes* is the ability to inspire team work, praise, cooperation and direct coordinations.

The summary of AMA management competency clusters are shown in Table I.

C. US NAVY LEADERSHIP AND MANAGEMENT COMPETENCY MODEL

As mentioned earlier McBer and Company a Boston based consulting firm has conducted competency assessment studies for its many different clients. McBer was set up in 1970 by David C. McClelland, a Harvard psychologist well known for his contribution to the study of motivation and competence. The list of McBer clients include the State Department, the US Army and Navy, Anheuser Busch, General Electric, General Mills, Honeywell, Owens-Illinois, and Twentieth Century Fox. The US Navy is considered to be McBer's biggest customer.

McBer and Company has worked with the US Navy since 1973, conducting research on competence and developing the Leadership and Management Education and Training (LMET) program. The plan of the US Navy in this program was to develop Naval personnel at each level of competence required by their job. Competency is defined as any knowledge, skill, attitude, or value which can be shown to distinguish reliably between effective and less effective job performers. In other words, a competency is what superior performers do more often, in more situations with far better results than average performers [Ref. 5: p.5].

The program mission was to increase the US Navy's ability to achieve its overall mission by increasing the effectiveness of Navy leaders across all levels of the chain-of-command [Ref. 6]. The leadership and management courses are conducted based on the results of the research with the expected results :

> Improved leadership and management competence on the part of the Navy's officers, petty officers and civilian personnel will enhance the Navy's performance in all areas, and may well provide the margin of superiority at sea that the Navy can achieve over any potential future adversary. It will also aid in the resolution of contemporary Navy problems involving retention, crisis management, disciplinary rates, attrition, working conditions, etc. LMET is design to improve and maintain the requisite level of leadership and management competence through the Navy total force [Ref. 5: p.6].

TABLE 1

AMA MODEL OF SUPERIOR PERFORMANCE

1. Entrepreuneurial cluster
   - Components include:
   - Efficiency orientation
   - Proactive

2. Intellectual cluster
   - Components include:
   - Logical thought
   - Conceptualization
   - Diagnostic use of concept.

3. Socio-emotional cluster
   - Components include:
   - Self control
   - Perceptual objectivity.
   - Accurate self-assessment.
   - Stamina and adaptability.

4. Interpersonal cluster
   - Components include:
   - Self-confidence
   - developing others.
   - Concern with impact.
   - Use of unilateral power.
   - Use of socialized power.
   - Use of oral communications.
   - positive regard.
   - Managing group process.

The research method used to develop the US Navy leadership competencies was the job competency assessment procedure developed by professor David C. McClelland at Harvard University. This procedure consists of three steps: [Ref. 7: p 3]

(1). *Identification of a criterion sample* of exemplary (top five percent), superior and average billet incumbents at each ascention points[1] from the three Navy communities (air, surface, and submarine command) in the Atlantic and Pacific Fleets.

(2). *Behavioral event interviews (BEI)* with subjects. Series of interviews elicited very detailed accounts of critical incidents actually faced by Navy leaders. The interview accomplished this through use of a narrative format: "What lead up to the situation, who was involved, what were the motives of the key actors, what did the respondent usually do, and what outcomes resulted from actions taken?"

(3). *Analysis of interview incidents* to identify the motives, skills, and behaviors which first, differentiated superior from average officers, and second, were needed by all officers in order to perform adequately in their jobs.

Using US Navy commands in San Diego, California and Norfolk Virginia, McBer asked commanding officers to identify superior and average leaders at eight ascenstion points. In this way 51 people (30 superior, 21 average) were identified from the Pacific Fleet and 78 people (38 superior, 40 average) from the Atlantic Fleet. A combination of most warfare communities and career points were represented in this total sample of 129 officers and enlisted. The interviews of 36 of the Pacific Fleet sample were used to create a series of 27 competency elements, grouped into five clusters. When scored on the whole sample of 51 Pacific Fleet interview, most of 27 competency elements differentiate the two groups [Ref. 8].

McBer then validated the findings using both Fleets. The validation technique included interview, and paper and pencil tests. First, the Atlantic sample was interviewed by an interviewer who did not know if the person interviewed was "superior" or "average". In addition, paper and pencil tests were administered to over 1,000 Navy personnel from petty officers through commanding officers in the three warfare communities from both fleets [Ref. 8].

---

[1]The ascenstion points are: division officer, department head, executive officer and commanding officer for commissioned officers, and petty officer, leading petty officer, leading chief petty officer, and master chief petty officer for non-commissioned officers.

Once a competency element derived from the original interview with the sample of Pacific Fleet personnel had been validated by either of these two procedures it was considered to be a competency that is associated with superior leadership and management performance in the navy. Sixteen of the original twenty seven competencies were validated in this way [Ref. 8].

The sixteen competencies which are grouped into five competency clusters are as follows:

The first competency cluster is a concern for efficiency and effectiveness: "Doing things well, and wanting to do better". [Ref. 9: p.11a]. Major components include setting goal and performance standards, and taking initiative.

The second competency cluster is the skillful use of influence: "Using influence in a positive fashion...not as a personal end, but toward Navy goals and effectiveness [Ref. 9: p.12a]. Major components include influence, team building, developing subordinates (coaching) and self-control.

The third competency cluster is that of advising and counselling: "To advise and counsel personnel in order to improve their performance on the job" [Ref. 9: p.13a]. Major components are positive expectation, realistic expectation, and understanding.

The fourth competency cluster is that of management control or optimizing people and resources for the tasks [Ref. 9: p.14a]. Major components are planning and organizing, optimizing the use of resources, delegating, monitoring results, rewarding and disciplining.

The fifth competency cluster is conceptual thinking or identifying and organizing relevant facts for a clear understanding of the situation before acting on it [Ref. 9: p.15]. There is only one component in this cluster, that is applying conceptual thinking to the job situation.

For a complete list of the sixteen LMET competencies, see Table 2.

D. MCBER COMPETENT MANAGERS MODEL

Dr. Richard E. Boyatzis with the assistance of his colleagues at McBer Company developed a model for competent managers in his book *"The Competent Managers: A Model for Effective Performance."* He made an opening remark in this book about the importance of a competent manager for an organization:

> "an organization needs managers to be able to reach their objectives. They need *competent managers* to be able to reach these objectives both efficiently and effectively. ... It is the competence of managers that determine, in large parts,

TABLE 2

U.S. NAVY LMET COMPETENCY MODEL

1. Efficiency and effectiveness cluster.
   Components include:
   a. Setting goals and performance standards.
   b. Taking initiative
2. Skillful use of influence.
   Components include:
   a. Influences
   b. Team builds
   c. Develops subordinates
   d. Self-control
3. Advising and counseling.
   Components includes:
   a. Positive expectations
   b. Realistic expectations
   c. Understanding
4. Management Control.
   Components include:
   a. Plans and organizes
   b. Optimizes use of resources
   c. Delegates
   d. Monitors results
   e. Rewards
   f. Disciplines
5. Conceptual thinking.
   components include:s
   a. Conceptualizes.

Source : U.S. Navy Human Resource Management Center, LMET Overview Brief, no date.

the return the organization realizes from their human capital, or human resources."... [Ref. 10: p.1].

At the time of this study the author and his colleagues at McBer had completed a number of competency assessment studies on various management jobs. The author decided to reanalyze all the available information in its raw form rather than to merely conduct a metaanalysis or secondary analysis. The information came from 12 organizations and more than 2,000 people in 41 management jobs within these organizations. Four organizations studied were from the public sector which includes 21 management jobs. These organizations were federal departments or agencies within the United States government. One organization was a branch of the military; one was involved in foreign relations; one was involved in International trade; and one was primarily involved in aspects of domestic trade. Managers in the studies were in various levels of functions within these organizations [Ref. 10: p.40].

Twenty of the management jobs were in eight organizations from the private sector. These organizations were in the Fortune 500 list: an industrial-products business; a high-technology industrial product business; a consumer-good business; a high-technology industrial and consumer-product business; a communication business; an industrial and consumer products business; and a medical health-care, and drug business. Managers in this study were at various levels and in various functions within these organizations [Ref. 10: p.41].

The purpose of this study was to determine which characteristics of managers are related to effective performance in a variety of management jobs in a variety of organizations. The author also asserted that this study should provide the basis for people to compare and assess their models of competent management, and to provide some guidance as to the aspects of the model that need further revision to be most useful to managers and to the organizations that they serve.

The method used in the study was the Job Competency Assessment Method, with some modifications. The modified method involves five steps to generate a validated model of managers' competencies for a job. The first step involves determining the appropriate measure of job performance and how it is to be assessed. Without an adequate measure of job performance, validation of a model is impossible [Ref. 10: p.41].

The second step includes job element analysis. The results of job element analysis are a weighted list of characteristics that managers perceive as important in

distinguishing superior from average performance, and those characteristic required by anyone in the job.

The third step involved a form of critical-incident interview[2] called Behavioral Event Interviewing. The results of the interview is a detailed description of a number of critical incidents on the job in which the interviewee's behavior and his or her thoughts and feelings are documented.

The fourth step involves identification and administration of tests and measures that are chosen to assess various competencies. The fifth step involves integration of the results of step two through four. The result of these activities is a model of job competence based on various characteristics assessed through various methods of measurement [Ref. 10: p.41]. The job competency assessment method used in this study is shown in Table 3.

As a result of this study 12 competencies were identified and they were grouped into six competency clusters. They were:

First, the goal and action management cluster includes four competencies: efficiency orientation; proactivity; logical thought; concern with impact. Managers with this set of competencies establish goals and plans of action to determine what and how people and other resources should be used, and solve problems to keep the organization functioning [Ref. 10: p.60].

Second, the leadership cluster includes three competencies: self confidence; use of oral presentation; and conceptualization (for middle and executive level managers only). Managers with this set of competencies see themes and patterns in common, or shared objectives, values, problems, products, concern for performance of individuals and the group within the organization. They communicate them to others in a forceful and impressive manner [Ref. 10: p.100].

Third, the human resource management cluster includes four competencies: use of socialized power; positive regard; managing group process, for middle and executive level managers only; and accurate self assessment. Managers with this set of competencies have positive expectations about others to accomplish tasks; then use networks or coalitions to solve problems; and then stimulate cooperation and pride in work groups [Ref. 10: p.122].

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[2]The critical incident interview was developed by Flanagan in 1954. See Flanagan, J.C., *The Critical Incident Technique.* Psychology Bulletin 1954, 51(4), 327-358.

TABLE 3

MCBER JOB COMPETENT ASSESSMENT METHOD

Steps	Activities	Results
Identification of criterion measure	Choose an appropriate measure of job performance Collect data on managers	Job performance data on managers
Job element analysis	Generate list of characteristics perceived to lead to effective and/or superior job performance Obtain item rating by managers Compute weighted list of characteristics Analyze clusters of characteristics	A weighted list of characteristics perceived by managers to relate to superior performance A list of the clusters into which these characteristics can be grouped
Behavioral Event Interviews	Conduct Behavioral Event Interviews Code interviews for characteristics or develop the code and then code the interviews Relate the coding to job performance data	A list of characteristics hypothesized to distinguish effective and/or superior from poor or less effective job performance A list of validated characteristics, or competencies
Tests and measures	Choose tests and measures to assess competencies identified in prior two steps as relevant to job performance Administer tests and measures and score them Relate scores to job performance data	A list of validated characteristics, or competencies, as assessed by these tests and measures
Competency model	Integrate results from prior three steps Statistically and theoretically determine and document causal relationships among the competencies and between the competencies and job performance	A validated competency model

Source: Richard E. Boyatzis, "The Competent Manager: A Model for Effective Performance", McBer and Company, 1982.

Fourth, the directing subordinates cluster includes three competencies: developing others; use of unilateral power; and spontaneity. Managers with this set of competencies express themselves to others to improve subordinate's performance by giving directions, orders, commands, and performance feedback [Ref. 10: p.143].

Fifth, the focus on others cluster includes four competencies: self-control; perceptual objectivity; stamina and adaptability; concern with close relationships. Managers with these competencies would take a balanced view of events and people. They would withhold their personal views, needs, and desires in the service of organizational needs and concerns for others. They would be concerned with understanding all sides (e.g., opinions and feelings) of an issue or conflict. They would attempt to build close relationships with others. They would not be self-centered or narcissistic, and therefore, have a focus on others in their environment [Ref. 10: p.160].

Seven of the characteristics were considered to be threshold competencies. They were: use of unilateral power; accurate self-assessment; positive regard (for middle level managers only); spontaneity; logical thought; specialized knowledge; and developing others.

The five clusters and the 12 competencies, and the seven threshold competencies are summarized in Table 4.

E. SUMMARY

As mentioned earlier in this chapter, the empirical studies to identify managers competencies in the United States has begun and has been centered around the McBer and Company. The literature review also showed that the management competency model developed by Boyatzis is an aggregate study of all research done before by McBer which includes the study done for the US Navy. Although, the AMA study was not explicitly mentioned on the list of the information used by Boyatzis and his colleague in developing their model, we assume that a good part of the information and knowledge were derived from the AMA study as a part of the overall information used by Boyatzis and his colleague in building their model. The assumption made was based on the fact that Boyatzis was the leading member of the AMA study.

However, for the purpose of this paper, we will use the US Navy's LMET competency model in building an integrated competency model for the Indonesian Navy. The reasons for selecting the LMET model are, first, the study by the McBer and company to build the LMET model was conducted in the military environment, in this case, in the US Navy, a situation which is comparable in nature with the environment where the model will be applied which is in the Indonesian Navy.

TABLE 4

MCBER MODEL FOR MANAGERS EFFECTIVE PERFORMANCE

Summary of Competency Results[a]		
Cluster	Competency	Threshold Competency
Goal and action management cluster	Concern with impact (skill, motive) Diagnostic use of concepts (skill, social role) Efficiency orientation (skill, motive, social role) Proactivity (skill, social role)	
Leadership cluster	Conceptualization [b] (skill) Self-confidence (skill, social role) Use of oral presentations (skill, social role)	Logical thought (skill, social role)
Human resource management cluster	Managing group process [b] (skill) Use of socialized power (skill, social role)	Accurate self-assessment (skill) Positive regard[c] (skill)
Directing subordinates cluster		Developing others (skill, social role) Spontaneity (skill) Use of unilateral power (skill, social role)
Focus on others cluster	Perceptual objectivity (skill) Self-control[d] (trait) Stamina and adaptability (trait)	
Specialized knowledge		Specialized knowledge (social role)

[a]Items in parentheses indicate levels of competency for which empirical support was found

[b]Supported as a competency at middle and executive level management jobs only

[c]Supported as a competency at middle level management jobs only

[d]Supported as a competency at entry level management jobs only

Source: Richard E. Boyatzis, "The Competent Manager: A Model for Effective Performance", McBer and Company, 1982.

Second, The three competency models reviewed in this chapter were built mostly by the people from the McBer and company. So, we can make a presumption that the outcome of the three studies are not mutually exclusive.

III. MANAGEMENT COMPETENCY ASSESSMENT FOR THE INDONESIAN NAVY: A PILOT STUDY

The purpose of this chapter is to describe the process, the analysis and the outcome of a pilot study designed to assess management competency in the Indonesian Navy. The overall goal of the pilot study is to identify what is defined as management competencies for management practice in Indonesia using a sample of 13 Indonesia officers at the Naval Postgraduate School in Monterey. The results of the pilot study then are integrated in Chapter IV with the management competencies earlier identified from literature. The ultimate goal is to develope a "new" management competency model for the Indonesian Navy. Note, a sample of only 13 officers (all who are available) was used as an example of the process and not to represent competencies which could only come from much larger samples.

This chapter will be organized under four sections: identification and statement of the problem; description of the study's methodology; implementation of selected methodology; results and analysis.

A. IDENTIFICATION AND STATEMENT OF THE PROBLEM

The challenge we face is to conduct a management competency assessment for the Indonesian Navy for the department head level. The central question in this study was: What are the competencies of an effective department head in the Indonesian Navy?

A pilot study approach was selected to research the question, for the following reasons. A pilot study can be conducted using limited resources such as experimenter, time, expenses, and a small sample. The experimenter also can use a pilot study as a way of identifying the issues, and testing the methodology. If the method proves to be reliable, and the data generated valid, then a full-scale study using the tested methodology can be undertaken in Indonesia.

The distance from the place where the research is conducted and the population of interest add to the reason for conducting a pilot study using a limited sample. As an individual study where the experimenter must pay for all the expenditures by himself, and with limited time available for the study (about 3 months) it is not cost-effective for the experimenter to travel to and from Indonesia to find an ideal sample for a full scale study.

B. DESCRIPTION OF METHODOLOGY USED IN THE PILOT STUDY

The method used to gather data in this pilot study is the ECHO multi-responses survey which was modified for this study. The name ECHO (is not an acronym) was chosen, because it connotes the acquisition of information from members of a group, the processing of that information, and (like an echo) the return of the processed information to other members of the same group, to be judged by them against information coming from some other group [Ref. 11: p.ii].

The ECHO method is primarily a way of measuring human values [Ref. 11: p.3]. The concept value as used here was derived from the definition used by Department of Defense in project ECHO conducted by the General Research Corporation which incorporates the idea of goodness, attractiveness, interest, preference, satisfaction, and their opposites. The underlying assumption of the ECHO method is that there is a universal human tendency, common to all places and cultures, to exhibit in both verbal and non-verbal behavior, some preferences and aversion, some obligation and prohibition.

The second assumption is that values are held in common in homogeneous group of people [Ref. 11: p.4]. If we ask a hundred people, "What is a good thing to do?" and eighty of them answer, "it is good to help others", we assume that the remaining twenty also believe that it is good to help others, but did not think of mentioning it on that particular day. The value category "helping others" would then be assigned an importance of 80 percent for that group, which indicates a strong value. If five people answer, it is good to take a vacation, we assume that the remaining ninety-five also believe it is good to take vacation, but did not think of mentioning it. The value category "take vacation" would be assigned an importance of 5 percent, which indicates a relatively weak value, but still important enough to be mentioned spontaneously by the group.

In addition to measuring values, the ECHO method measures the influence that people associate with values [Ref. 11: p.5]. Many values for example, involve social obligation, or prohibitions. People say that it is a good thing to be polite or a bad thing to steal. When we ask who would approve of being polite and who would disapprove of stealing, one respondent may tell us that his parent would approve of being polite and the police would disapprove of stealing; another respondent may say that he himself would both approve of being polite and disapprove of stealing. These

approving or disapproving figures are called sources, because they are seen as giving approval or disapproval for good or bad behavior; they are sources of one kind of influence.

The ECHO technique was introduced by Alex Bavelas (1942) for studying patterns of social values in relation to sources of influence reinforcement [Ref. 12]. In it's simplest form, the technique consists of asking a respondent two questions:"what is a good thing that a person like you could do and could be praised for doing? Who would praise you for doing it?

The ECHO technique uses a "projective survey", reversing the normal public polling process. Polls ask the respondent to assign an evaluation to a preselected topic; the ECHO technique assigns an evaluation and asks the respondent to think of behavior which carries this evaluation [Ref. 11: p.i]. In the ECHO technique respondents or subjects are selected from the population of interest and are asked to write several anonymous answers to each of the ECHO questions on preprinted and coded cards.

The ECHO technique has been applied by researchers such as, Barthol and Bridge (1968), who studied value and influence pattern in groups, and R. de Milleand R.P. Barthol (1969) studied satisfaction of the employees in the Pentalith Tracturing Company. The major uses and development of the ECHO method was by the US Department of Defense. The US Department of Defense sponsored research using ECHO method conducted by the General Research Corporation in 1966 to 1969 under the name of "Project ECHO". The population sample used in project ECHO is shown in Table 5.

As shown in the table, a sample with as few as five respondents was used in the project, and yet the reliability of the data collected was still acceptable. This is one of the reasons why the ECHO method which allows the use of small samples is utilized by this thesis.

In this pilot study, the ECHO method is used specifically to elicit management competencies from the subject of interest. As mentioned earlier, competency is a knowledge, skill, characteristic, or value that differentiate effective from ineffective managers or leaders. Competency in management is a mental ability. When we ask a question to a manager, what is the competency (knowledge, skill, characteristic or values) he or she should possess, or what he or she could do as a manager to become an effective manager? The question will coincide with the basic ECHO question : What

is the good thing for a person like you (a manager) could do, and could be praised for doing (be an effective manager)?

As a preliminary study to build a specific or "cultural-bound" management competency model for Indonesian Navy, we intentionally avoided using the standardized survey packages questionnaire for two reasons. First, there was no such survey questionnaire in the Indonesian language available. Second, the presumption that standardized survey packages or questionnaires which have been developed and tested in one country might have or use different terminology or norms that do not coincide with some terminology or norms in the other country. Bass and others in their book *"Assessment of Managers: an International Comparison"* wrote about the differences between cultures in management practice:

> "What may be transfered from one culture to another may be inappropriate or of negative value. We tend to regard organizational practices as universal in application, but many turn out to be quite limited and in utility or need of modification before they can be used in another culture." [Ref. 13: p.11].

We are in favor of the notion of "cultural-bound" management practices. For example, the Indonesian Armed Forces has a leadership principle called "the Eleven Principles of the Indonesian Armed Forces Leadership," which was developed based on the Indonesian culture and history. The first principle of the eleven principles is "Religious Devotion," something which is not mentioned in western management and the leadership literature. The ECHO technique was selected because it gives an opportunity for the respondents to use their own terminology to identify management competencies as they perceived them.

The interview technique might have been used, but some limitations prevented us from using it. In the interview, the interviewer overtly or tacitly structures the interview, instructing the respondent about what to expect and to answer. In the absence of electronic recording, which is not used in this study for the anonymity of the subjects, the interviewer is a fallible observer and inconsistent recorder of responses. Furthermore, as an interacting participant, the interviewer is part of the situation he or she both observes and influences. Most articles about the interview technique (e.q. Krech and Crutchfield 1948) point out that the mere presence of the interviewer and the way he is perceived by the respondent (role, age, sex, dress, attitudes, etc) have some usually strong effect upon the responses [Ref. 14: p.33].

C. SAMPLE

The sample used in this pilot study is drawn from Indonesian Officers, all of whom are students of the Naval Postgraduate School in Monterey, California. The sample consists of one navy commander, one army lieutenant colonel, one navy lieutenant commander, four air force majors, and six air force captains. (Actually, the population of interest is the Indonesian Naval Officers with the rank up to commander, who have already held the job of department head, or currently hold that job). The reason for using the officers from other Indonesian military services in the sample is convenience. First, we don't have the control and latitude for sample selection. We took what was available at the school. Second, we assumed that managerial skills required for officers from different services in the military at department level jobs are very much the same regardless of type of the services.

One of the advantages of using this kind of sample is that, the navy can share the ideas and concepts possessed by the officers from other services. These ideas and concepts will enrich our management skill inventory in the navy.

A pilot study is not intended to be a substitute for full-scale research, and need not be a random sample to be successful. A sample that includes a cross-section of the population of interest with sufficient experiences in the target job level and exposure to management education is all that is necessary. Sample description is shown in Table 6. Note, that in Table 6 all of the subjects in the sample held department level jobs before they came to the Naval Postgraduate School.

D. DATA COLLECTION

1. Data Collection Session.

Data collection was done in marathon sessions, in the third and fourth week of March 1987. Ideally data collection should be conducted in one session for the whole sample. However, due to the schedule conflicts this was hard to do. To overcome this problem, data collection was done by visiting each one of the subject by the researcher in their own residence. Each subject took 30 to 40 minutes to complete the ECHO questionnaire; the total time needed was between 6.5 to 7 hours.

2. Collection Packets.

Data collection packets were prepared prior to the sessions. One packet consisted of 10 cards. Each card was printed with the following information:

1. A subject number.

TABLE 6

SAMPLE DESCRIPTION

Number	Rank	Service	Held department head
1	CDR.	N	Yes
2	LT.COL.	A	Yes
3	LCDR	N	Yes
4	Major	AF	Yes
5	Major	AF	Yes
6	Major	AF	Yes
7	Major	AF	Yes
8	Captain	AF	Yes
9	Captain	AF	Yes
10	Captain	AF	Yes
11	Captain	AF	Yes
12	Captain	AF	Yes
13	Captain	AF	Yes

Note:

A = Army.
AF = Air Force.
N = Navy.

2. A sequence number to indicate the order in which the subject wrote his responses.
3. A question: Put yourself in the role of department head[3] what is a good thing for you to do in order for your department to become the best department in your command?

The questions and responses were given in the Indonesian language, the native language of the subjects. By using the indigenous language of the subjects we can tap the specific terminology and values which are used in the country, something that will

[3]The role of a department head is given to assure that the responses are compatible with the level of managerial skill for a department head job,

be difficult to translate into a foreign language without losing some of its meaning. The problem of translating for meaning was described very clearly by Phillips (1959) in his study of the problem of translation and meaning in field work. He wrote:

> "Finally, the field worker should be frank to admit that no matter how much care he devotes to the translation process, it is in absolute terms an unsolvable problem, and the best that he can hope for are good *approximations* between the meanings of the two languages. Complete semantic equivalence is a statistical fiction. The reason for this is clear: Almost any utterance in any language carries with it a set of assumptions, feelings, and values which the speaker may or may not be aware of, but which the field worker, as an outsider, usually is not.....". [Ref. 15].

However, to facilitate analysis in this thesis, all of the responses were translated into English, using general terminology in the management world. A small dictionary is retained to make sure that the translation process back to Indonesian language in the future will be accurate.

3. **Data Collection instructions.**

After the data collection packets were distributed, an instruction was read to the subject. A standard format of the instruction in ECHO survey was modified for this study, as follows:

Instruction to the subjects

The purpose of this data collection is to develope method for an assessment of management competencies. The competencies we are trying to assess are necessary in building a model for a curriculum development in management training for the Indonesian Navy. In this instance we focus on the job of department head level.

Each of you should have a sealed envelope and a pen. These are the only materials you would need. You will be asked to give ten responses to each of the following questions: Put yourself in the role of a department head, "What good things should you do in order for your department to become the best department under your command?"

"When I tell you to begin, you are to open the envelope by tapping it down on the left side so that the cards within are down on the left. Then tear off the right edge. Take out the deck of cards which are numbered with a "1". Do not remove anything else from the envelope. Take the rubber band off the cards,

but be especially careful that you do not change the order of the cards. Writing or printing as neatly as possible give a specific example of a good thing to do, according to the questions which is printed on the cards. Write that answer on the lines which have been provided following the questions. When you are finished return the cards to the envelope and all your material to me. I wish to thank you all for donating your time to help make this study a success."

"Do you have any question? If a problem should arise while you are working, please let me know. You may begin."

130 response cards were returned as a result of the data collection session for 13 subjects, 10 for each of the 13 subjects. Not surprisingly, a one hundred percent of return was achieved. Sample of data collection card in shown in Table 7.

4. **Data Classification Session.**

The goal of the classification session is to reduce the mass of individual responses into a set of categories which describe the important character held by the subject population. In the ECHO method it is essential that an indigenous classifier be employed in this task, as a person alien to a subject population might not be able to understand the language, or he might have different perceptions and would make different interpretations of the data.

In this session, officers from the sample were asked to participate in interpreting the individual responses in the sample and group those responses together which were similar in content and meaning. To check the reliability of classification done by the first classifiers, a second set of classifiers (another three officers) were given the list of categories created by the first team, and asked to resort the cards into those categories.

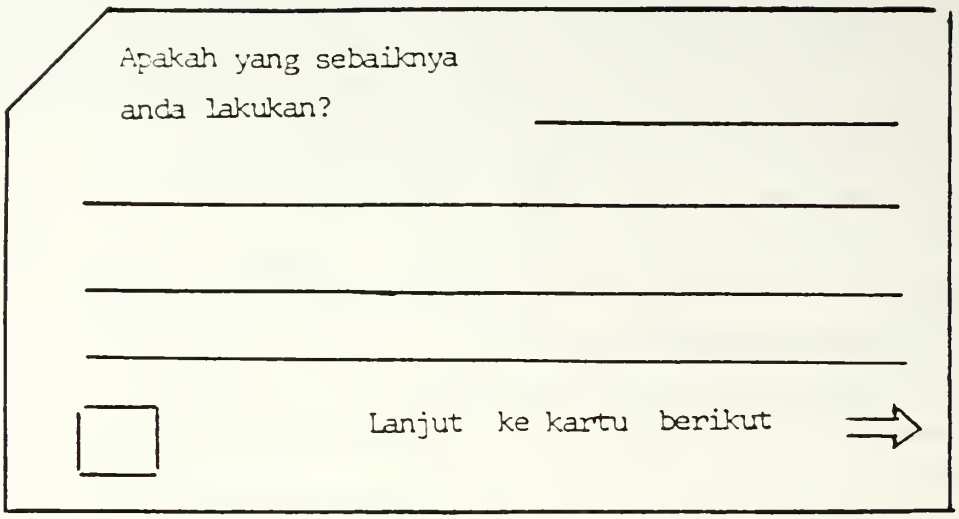
The classification procedure for the first team consists of three periods. In the first period each classifier worked by himself, reading the response written on each card and grouping cards together that, in his judgment, said or meant the same thing.

In the second period, the three classifiers worked together, combining all their separate sets of categories. One member read aloud the responses from one of his categories while the other two added cards from their own group that fitted that category.

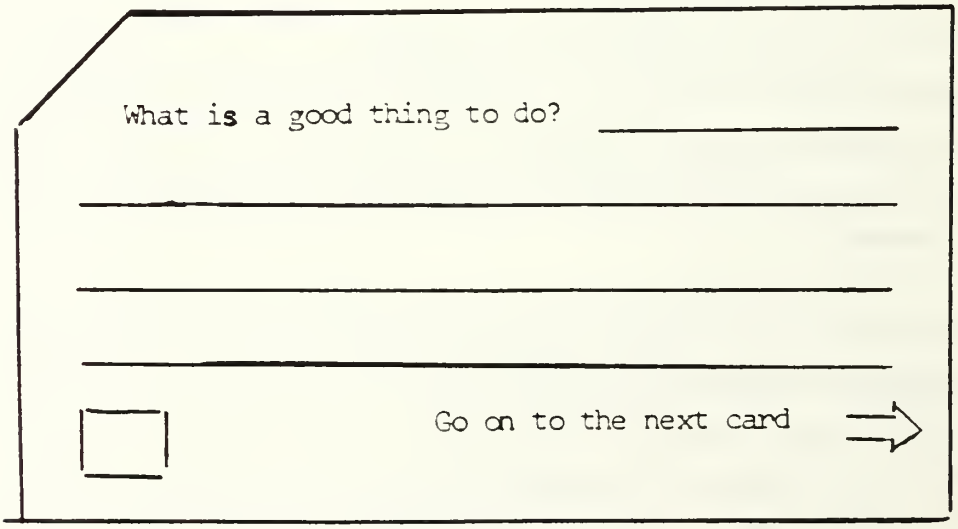
In the third period, the team wrote a label for each pile. The label should be in the form of an answer to the ECHO question and should summarize all cards in that category.

TABLE 7

SAMPLE OF DATA COLLECTION CARD



The Indonesian version of a data collection card



The English version of a data collection card

The second classifier group worked backward. It was instructed to resort the cards into the given category name. Before they started resorting, the cards to be resorted were shuffled and divided among the three classifiers. They were also asked to group the categories into smaller number of competency clusters (for large sample size with large number of categories, clustering the categories can be done using factor analysis). This process was done with the supervision of the experimenter.

A summary of the steps of ECHO study technique used in this pilot study is shown in Figure 3.1. The reader should note that validation step was not conducted in this study. However, in our recommendation at the end of the thesis we do propose that a validation of the result of the methodology used should be conducted before the methodology is used in a full scale research study.

E. RESULT OF THE STUDY AND ITS ANALYSIS

Again, it is important to note that this is a pilot study. There is no presumption of exhaustiveness. However, an assumption is made that the responses given by the subjects in the sample reflect the real situation to some important degree. If the responses were completely unrealistic, then there is no point to do the study.

The data collection sessions produced 130 responses. To interpret 130 separate, spontenuos answers would be too difficult without a frame of reference. To come up with a frame of reference, the classification sessions were conducted. Classification sessions resulted in grouping the responses into an average of 12 categories, as shown in Table 8.

Note, that categories constitute the primary findings of the study. They will be mentioned many times in the discussion that follows.

To check reliability of the category ranking given by the team of classifiers, a Spearman rho (p) was computed. The reliability turned out to be high with p= .88 as shown in Table 9 .

The rank of the categories was based on the frequencies of cards which fell into in each category. The rank of those categories appears to be an effective means for discovering prevalent values within the group of subject population. However, the individual rankings are necessary to facilitate the computer operation[4] of factor in analysing the data. The percentage of responses which fall into each category are

[4]A computer operation is not used in this pilot study, since the indigenous classifier can work manually to reduce the relatively small number of categories. However, a model for using factor analysis with the ECHO technique in full scale study to reduce the number of categories is provided in the appendix.

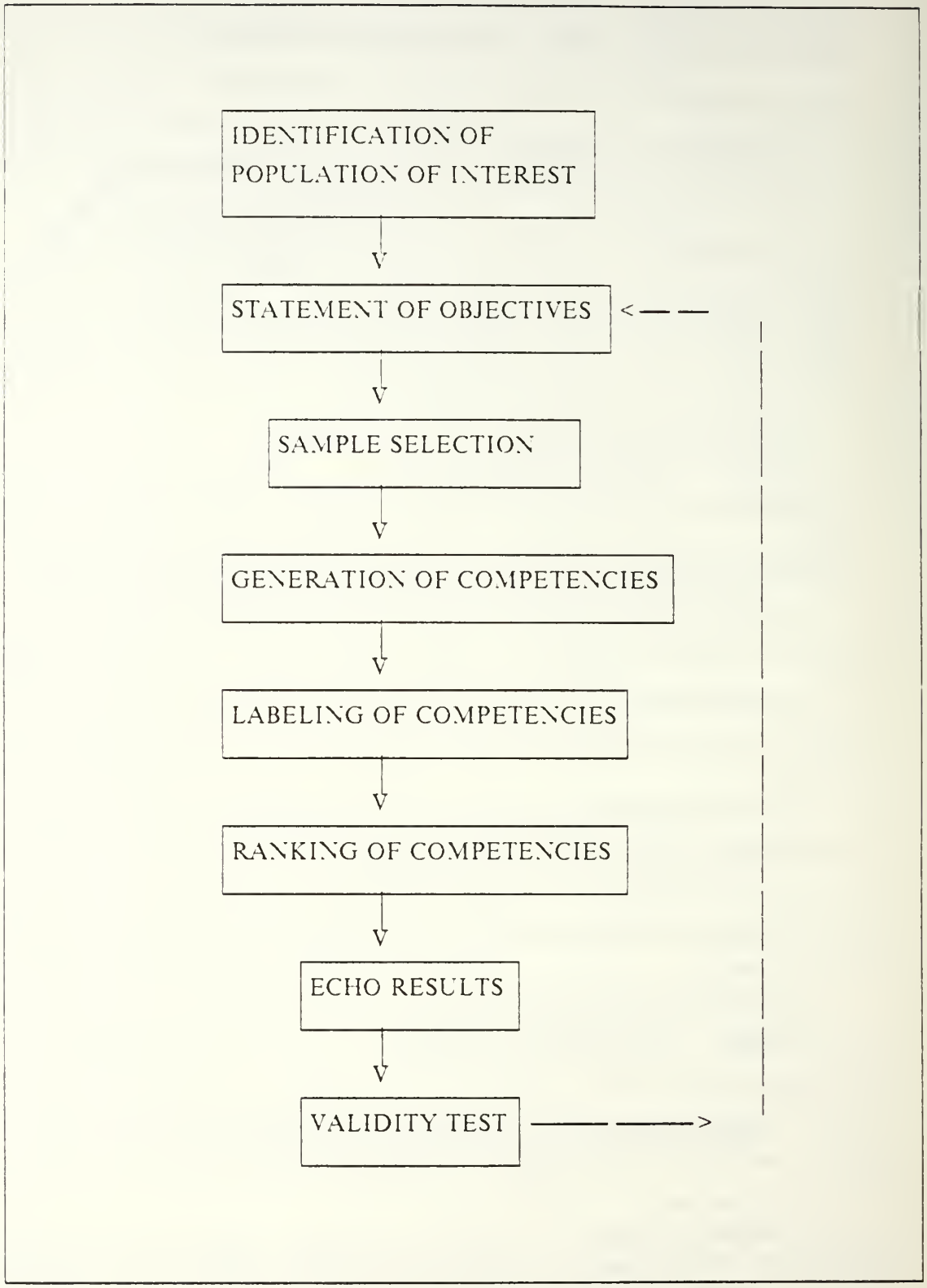


Figure 3.1 The Process of ECHO Survey Technique.

TABLE 8

CATEGORIES TITLES AND PENCENTAGE OF RESPONSES FOR THE OUTSTANDING DEPARTMENT HEAD

AA	Analytical Thinking	3.5%
BB	Consistency	4%
CC	Communication Skill	6.5%
DD	Discipline	12%
EE	Ability to Develope Subordinates	7.7%
FF	Know one's Job	6%
GG	Leadership	30%
HH	Make Optimal Use of Resources	2%
II	Planning and Organizing	9.8%
JJ	Realistic Expectations	2.3%
KK	Use of Rewards	9.2%
LL	Time Management	7%

shown in Table 10.

The graph in Table 10 indicates relative importance of categories. Leadership accounted for the outstanding competence perceived by the group. A large percentage of the leadership score compared to other categories evolves from the fact that the frame of reference used in classifying leadership is the *Eleven Principles of the Indonesian Armed Forces Leadership* [Ref. 16] which consists of:

1. Belief in and obedience to One God.
2. To give the right example to one's subordinates.
3. To arouse the spirits amidst one's subordinates.

TABLE 9

CLASSIFIERS IMPORTANCE RANKING

Categories	Rank assigned by first team	Rank assigned by second team	differences d	d^2
AA	12	11	1	1
BB	7	5	2	4
CC	10	12	2	4
DD	3	2	1	1
EE	6	7	1	1
FF	4	6	2	4
GG	1	1	0	0
HH	11	9	2	4
II	2	4	2	4
JJ	9	8	1	1
KK	5	3	2	4
LL	8	10	2	4

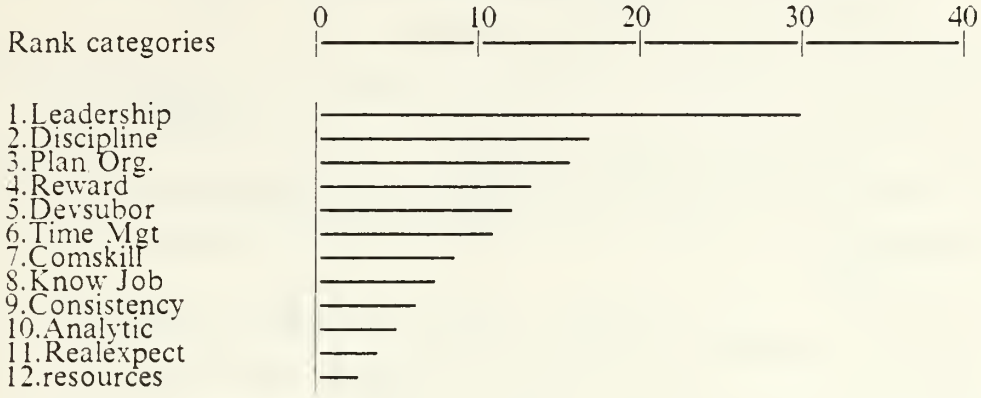
$N = 12$ $\sum d^2 = 32$

Spearman's rho (ρ) for correlation between rankings:

$$\rho = 1 - \frac{6Ed^2}{N(N^2-1)} = 1 - \frac{192}{1716} = 1 - 11.2\% = 88.8\%$$

TABLE 10

PERCENTAGE OF RESPONSES IN CATEGORIES



4. To encourage one's subordinates.
5. To supervise one's subordinates and have the courage to correct them if necessary.
6. To be able to decide priorities.
7. Be modest and not overdo things.
8. Be loyal to one's superior, colleagues, and subordinates.
9. Be economical.
10. To be open for control and corrections.
11. To be willing to transfer one's responsibilities and position to the next generation.

If we grouped responses under leadership category differently we might end up with more categories. For example, principle number 5, "to give the right example to one's subordinates" accounted for 5.3% of overall responses. This is high enough comparing to 3% of responses accounted for by the optimal use of resources category, or 2% of realistic expectations category.

The second team of the indigenous classifiers worked together with the experimenter and grouped the 12 categories into five competency clusters. The guideline used in this process was the logical thinking and the prevalent values which exist in the Indonesian military management practices. For example, The first cluster is the "leadership" cluster. We do not group "leadership" with other categories, since it is considered a specific value in Indonesian management practices. In addition, as an outstanding category, we do not expect it to be grouped with other categories.

The second cluster includes "use of reward", "realistic expectation", and "ability to develope subordinates" categories. These three categories are grouped together, since they all have something to do with concern for subordinates well-being. We give give a title for this cluster as "concern for subordinates cluster."

The third cluster includes, "knowledge of one's job", "makes optimal use of resources", and "consistency." These three categories are grouped together since they are interrelated with each other in terms of concern for job accomplishment. For example, one can utilize available resources in an optimal manner consistently, if one knows his or her job well. We give the tittle for this cluster as "concern for job accomplishment".

The fourth cluster includes, "plans and organizes," "disciplines" and "time management" categories. These three categories have something to do with anticipating future outcomes of organization. For example, a successful manager should plan and organize activities which are considered necessary to achieve the goal of the organization. Other things being equal, only with discipline and good time management in implementing that plan could the intented outcome be achieved. We give the tittle for this cluster as "future skills cluster".

The fifth cluster includes, "communication skill" and "analytical thinking". These two categories are grouped together since they are interrelated to each other in terms of conceptualizing and verbalizing or presenting thoughts. For example, to have a good communication skill one should have good analytical thinking in making associations of different concepts, ideas, and facts. We give the title for this cluster as "conceptual thinking cluster". The summary of management competency model as the result of this pilot study is shown in Table 11.

F. SUMMARY

The central question in this study is: what are the competencies of effective performers as department head in the Indonesian Navy? The answer was partly found by the ECHO survey in the form of a pilot study. We emphasize time and again that in this pilot study we did not make any presumption of exhaustiveness of its results. However, we assume that the responses given by the subjects were realistic to some small but important degree.

Our findings in this study are 12 categories of competencies, with leadership constituting an outstanding category for the reason mentioned earlier, which was a

TABLE 11

MANAGEMENT COMPETENCY MODEL
PILOT STUDY RESULTS

1. Leadership.

   Components include: the Eleven Principles of the Indonesian Armed Forces Leadership.

2. Concern for Subordinales.

   Components include:
   a. Use of Rewards.
   b. Realistic expectations.
   c. Ability to Develope subordinates.

3. Concern for Job Accomplishment.

   a. Knowledge of one's Job.
   b. Make Optimal uses of resources.
   c. Consistency.

4. Future skills.

   Components include:
   a. Plans and organizes
   b. Disciplines.
   c. Time management.

5. Logical thought.

   Components include:
   a. Communication skill.
   b. Analytical thinking.

"cultural-bound" principle in management practices in Indonesia. Furthermore, the 12 categories were grouped into five compernсy clusters for easy reference. These five competency clusters will be used in combination with competency model derived from Chapter II to develop an integrated model of effective performance in the Indonesian Navy, particularly at the department level job.

IV. THE INTEGRATED MODEL OF MANAGEMENT COMPETENCY FOR THE INDONESIAN NAVY

The purpose of this chapter is to generate an integrated model of management competency for the Indonesian Navy, derived from the information on management competencies in Chapter II and Chapter III.

We inferred in Chapter II that the LMET competency model is a good representation of other models in the chapter to be used in our integrated competency model. To restate the reasons, first, the study to build the LMET model was conducted in a Navy environment, a situation which is comparable in nature with the environment where the model will be applied which is in the Indonesian Navy. Second, the competencies studies in Chapter II were researched mostly by people in McBer and Company. Thus we make a presumption that their outcomes were not mutually exclusive.

The assumption we made in incorporating LMET competency model into our integrated model of competency for the Indonesian Navy was that, if the LMET model works for a military organization such as the US Navy, the model would work for other Naval organizations as well, such as the Indonesian Navy.

The underlying reason for combining the two approaches is to obtain a comprehensive management competency model for the Indonesian Navy. From Chapter II we obtained competencies which could not be tapped in our study using the available sample described in Chapter III, such as efficiency and effectiveness competency cluster, skillful use of influence competency cluster, and advising and counseling competency cluster. From Chapter III we obtained the "cultural-bound" management competencies which are necessary for effective managers performance in the Indonesian cultural environment, but which could not be found in the management literature in America. One example is the leadership competency cluster which consists of the "eleven principles of the Indonesian Armed Forces leadership." Thus, the combination of the two approaches give us a management competency model which draws the benefits from both the approachs.

The schematic integration process is shown in Figure 4.1.

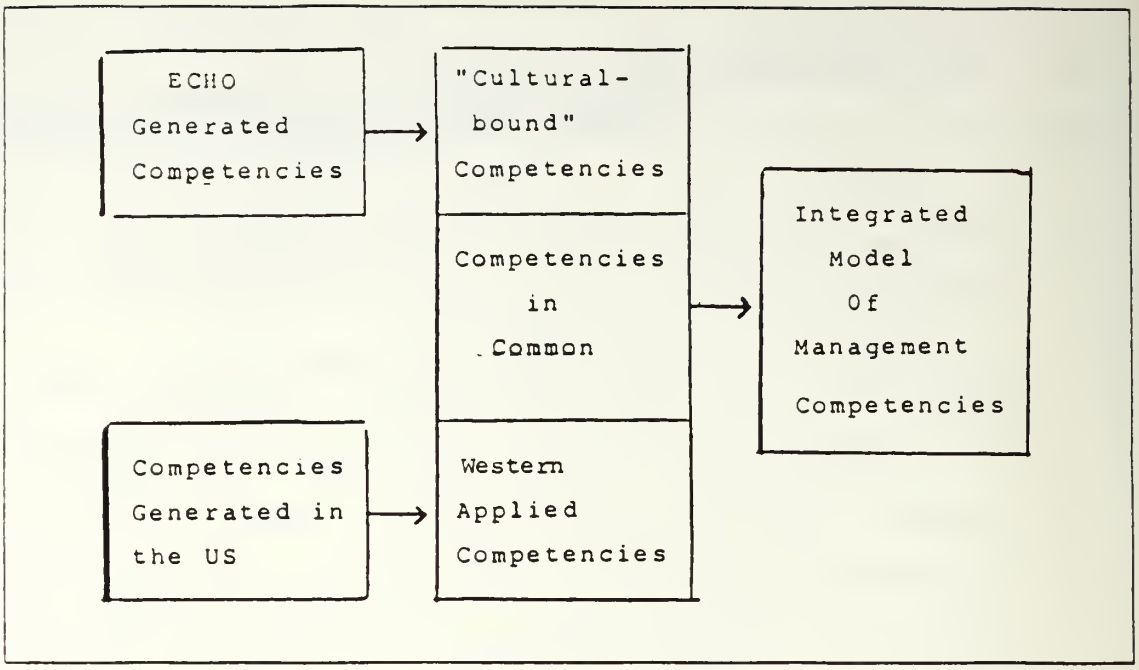


Figure 4.1 Management Competencies Integration Process.

A. INTEGRATION PROCESS

In the integration process, we incorporated all of the competency clusters in the LMET and all the competencies in the Pilot study results to form the integrated model. The names of the cluster titles are taken directly from the LMET model. Additional competencies from the pilot study not included in the LMET model are then subsumed under the appropriate LMET cluster titles.

It is technically sound to retain the results of a more comprehensive empirical study which has already been validated, and let the results of a pilot study find its match in its results. Our choice was supported by the observation of both models where we noticed that generally the competencies in the pilot studies model have their matches in the LMET model. There are only four competencies in the pilot study model which have no match in the LMET model. They are: "leadership", "knowledge of ones' job", and "consistency". Although time management competency is not mentioned explicitly in the LMET model, however, in the LMET student journal [Ref. 17], time management was listed as a content of the curriculum under the efficiency and effectiveness competency cluster. All of these competencies will be incorporated in our integrated competency model.

In the integrated competency model, the leadership competency which consists of "the Eleven Principles of the Indonesian Armed Forces Leadership[5] was incorporated as the first competency cluster in the model. As mentioned earlier in Chapter III, "leadership" stands out as a specific value in management practice in the Indonesian military environment.

The second competency cluster is the efficiency and effectiveness cluster, which consists of two competencies, "setting goals" and "taking initiatives." These two competencies are incorporated from the LMET model. There is no competency derived from the pilot study model under this cluster.

The third competency cluster in the integrated model is the management control cluster, which consists of nine competencies. They are: "plans and organizes", "optimal use of resources", "delegates", "monitoring results", "discipline", "consistency", "time management", "knowledge of one's job", and "rewards." The "plans and organizes", "optimal uses of resources", "discipline", "time management", and "rewards" are shared by both the LMET and the pilot study model. The "delegates" and "monitors results" competencies are derived from the LMET model, and "knowledge of one's job competency is derived from the pilot study model.

The fourth competency cluster in the integrated model is the skillful use of influence cluster, which consists of four competencies. They are: "self-control", "influence", "develop subordinates", and "team building". The "develop subordinates" competency is shared by both models. The "self-control", "influence" and "team building" competencies are derived from the LMET model.

The fifth competency cluster in the integrated model is the advising and counseling cluster, which consists of three competencies. They are: "positive expectations", "realistic expectations", and "understands competency". The "realistic expectations" competency is shared by the two models. The "positive expectations" and "understands" competencies are derived from the LMET model.

The last competency cluster in the integrated model is the conceptual thinking cluster, which consists of three competencies. They are: "conceptual ability", "analytical thinking", and "communication skill competencies." The "conceptual ability" competency is derived from the LMET model, and the "analytical thinking" and "communication skill" competency are derived from the pilot study model.

Summary of the integrated management competency model is shown in Table 12.

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[5]See page 37 and 39 for the list of the "Eleven Principles."

TABLE 12

INTEGRATED MODEL OF MANAGEMENT COMPETENCY FOR THE INDONESIAN NAVY

1. Leadership cluster

   Components include:"The Eleven Principles of the Indonesian Armed Forces Leadership."*

2. Efficiency and Effectiveness cluster

   Components include:

   Setting goals and standards**
   Taking initiatives**

3. Management control cluster

   Components include:

   Plans and organizes***
   Makes optimal use of resources***
   Delegates**
   Monitoring results**
   Disciplines***
   Consistency*
   Time management***
   Knowledge of one's job*
   Use of rewards***

4. Skillful use of influence cluster

   Components include:

   Self-control**
   Influence**
   Ability to develop subordinates***
   Team building**

5. Advising and counseling Cluster

   Components include:

   Positive expectations**
   Realistic expectations***
   Understands**

6. Conceptual thinking cluster

   Components include:

   Conceptual ability**
   Analytical thinking*
   Communication skill*

Notes: * Derived from the pilot study model.
** Derived from the LMET model.
*** Competencies in common.

With the management competency model at hand, the next possible question to ask is what is the process to acquire them? We try to give the answers for this question in the next section.

B. COMPETENCY ACQUISITION PROCESS

In discussing the competency acquisition process we make an assumption that the competencies listed in the integrated model of management competency can be acquired through study and practices and that the more these competencies are used in the job, the greater the improvement of management skills in the Indonesian Navy. Our assumption is supported by a statement made by David C. McClelland a Harvard professor in psychology in his article in the American Psychological Review in July 1965. He wrote:

> "It is difficult, if not impossible, to find a human characteristic that can not be modified by training or experience, whether it be an eye blink or copying Koh's block design. There is no solid evidence that this trait or any other human traits can not be changed." [Ref. 18].

There are five stages in the competency acquisition process [Ref. 7: p.15]. they are:

1. Recognition of the competency.
2. Understanding of the competency.
3. Self-assessment in relation to the competency.
4. Skill practice in the competency.
5. Application of the competency in the job situation.

1. **Recognition of the competency.**

In the learning process it is important that trainees recognize and appreciate the competencies, be aware of their need and the benefits of their use. The learning material, in this case the competencies, should be presented in such a way that the trainee can easily recognize them. The effective learning media for this purpose are television film and case studies. Materials covered in this stage should provide trainees with specific competencies and behaviors that are demonstrated by superior performers.

To make the case more recognizable, trainees can be presented with difficult cases, in which they realize that they actually encounter problems calling for the use of the specific competency in question. Following this type of case, trainees can be shown how a superior performer uses a specific competency to overcome a difficult situation. For example, trainees may be given a complex analytical task which requires critical

thinking and then a superior performer is shown using his competency in critical thinking to solve that problem.

2. **Understanding of the competency and how it relates to managerial effectiveness.**

To facilitate understanding of the competency and how it relates to managerial effectiveness, readings and lectures can be given to the trainees. Readings and lectures can provide trainees with necessary background information and relevant theories to fully understand the competencies in the model. Beside that, readings and lectures can also provide trainees with an opportunity to personally integrate the desired characteristic, skill and knowledge learned in the first stage by incorporating those concepts into their own way of thinking.

3. **Self-assessment in Relation to Competency.**

After the first two stages, trainees would have the image of how superior performers should think and act in different situations in the job. The self-assessment stage will give the opportunity to the trainees to assess themselves as to what extent they possess a particular competency, and how it might differ from that exhibited by the superior performers. By assessing the difference, trainees can identify specific areas in a competency for self-improvement. It is through the realization of personal discrepancies between the ideal and the real in each competency that trainees can perceive and feel a need to change.

4. **Skill Practice in the Competency.**

With the emphasis on the discrepancies in competencies, trainees practice the characteristics, skill, and knowledge they acquired during training. Appropriate training activities during this stage are role playing and case analysis. Practice can help trainees understand and value the competency even more. In turn, by increased understanding of the competency and its benefits, trainees will be motivated to want to master more competencies. For example, the best way of practicing conceptual thinking is by repeated exposure to case analysis. It was found that trainees who were repeatedly asked to analyze complex case problems : "what is the problem? Who has it? What are your data?" rapidly gain the ability to draw critical distinction and inferences from complex situations [Ref. 7: p.16].

5. **Application of the competency in job situation.**

In the final stage of the acquisition process, trainees identify situations in which they will use the competency learned during training in their job. This stage constitutes the continuing process of competency acquisition. This process is in line

with the assumption we made at the beginning of this section, that the more the competency acquired through study and practice is used in the job, the more trainees will increase their competencies in leadership and managerial skills.

A training program designed to develop the competency for managers should incorporate these five stages of the acquisition process. Missing any one of the stages will result in only partial development of the competency. A Model for Effective Performance is the Indonesian Navy is shown in Figure 4.2.

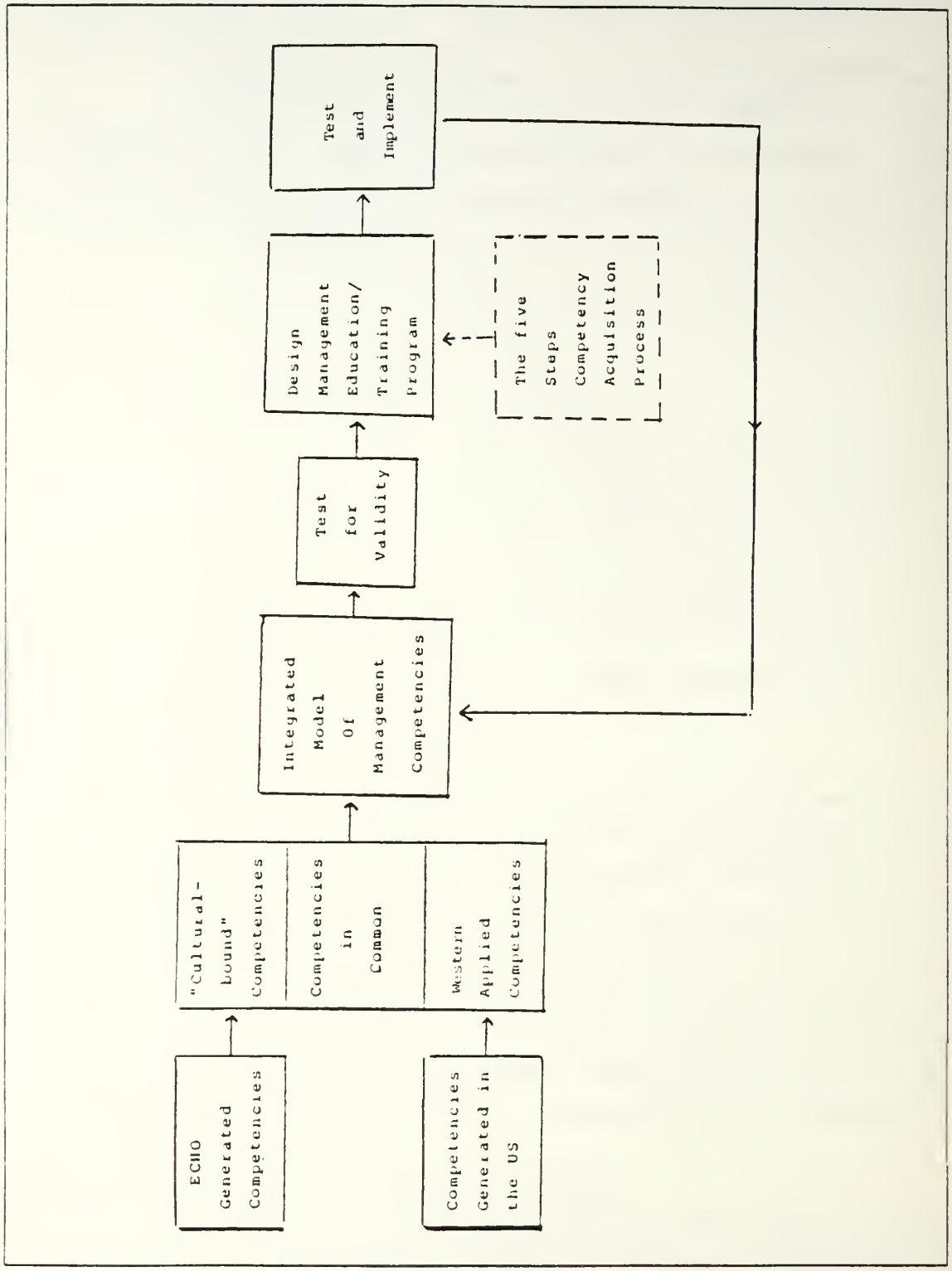

Figure 4.2 A Model for Effective Performance in the Indonesian Navy.

V. CONCLUSION AND RECOMMENDATIONS

Military managers with high quality management skills are in great demand in the Indonesian Navy. In the light of changes in weapon systems that have occured and will be underway, the navy's managerial orientation also needs to shift from traditional to modern military management. The current demand for highly qualified military professionals is iinportant need to fill.

Training military managers in managerial competencies becomes a very relevant issue. Given the highly complex and sophisticated weapon systems to be managed, military managers must receive adequate training in managing human resources of the systems. In planning training for navy managers, the competency model developed in this thesis can serve as a guide in designing the training objectives. The model gives both an international and national flavor to effective managerial performance.

Obtaining support from the Indonesian Navy's top management is a prerequisite to test and implement the model. It should be approved in this case by the Indonesia Chief of Naval Staff. The integrated competency model should be tested for validity, however, before it is submitted to the Navy top management for approval. When we incorporated the LMET model into our integrated model we made the assumption that if the model works for the US Navy, then the model will work for the Indonesian Navy as well. However, this assumption does not preclude the need to validate the model in the Indonesian Navy's environment before it is implemented.

The ECHO method used in the pilot study also has one more step to go through before it can be used in a full scale study in the Indonesian Navy. Even though the pilot study showed its utility and reliability in producing the competencies in question, there was no validity test done on the outcome of the study. The first step to go is to conduct a validity test in the Indonesian Navy environment by using an interview technique or paper and pencil test. If the test gives a positive result, which means that the competencies in the model are demonstrated by superior performers in the navy, a full scale study can be undertaken to refine the model as well as to tap more competencies.

However, if the result of the test is negative, which means that the competencies in the model are not shown in effective managers performance, then we can use another instrument to conduct the management competency assessment.

Finally, to know something is not sufficient. We must be able to apply the knowledge. This notion underlies the competency acquisition process described in the last chapter. For a training program to impart the competencies and be successful, the five steps acquisition process should be incorporated to the fullest extent. By applying the steps completely, competencies learned in the training can be applied to the real world, thus improving the quality of navy managers undergoing the training.

Based on the discussion above the following recommendations regarding the future research are forwarded:

1. A validity test should be conducted on the integrated competency model for the Indonesian Navy, using interview techniques and reactive tests.
2. A full scale research study to assess management competencies in the Indonesian Navy should be made using the ECHO survey technique which is expanded to incorporate the factor analysis technique using the model described in the appendix. This study will enhance the existing model.
3. Based on the validated management competencies it is possible to design management training curriculum which incorporate the five steps of competencies acquisition process.

APPENDIX
A MODEL FOR USING FACTOR ANALYSIS IN THE ECHO SURVEY TECHNIQUE

The purpose of this section is to build a model for using factor analysis in the ECHO survey technique. The emphasis in building the model is towards providing an additional tool for the ECHO methodology in building a management competency model in a full scale study. It's not intended to describe in detail step by step the factor analysis technique. However, the aim is to expand the traditional ECHO technique with the steps that will allow the use of factor analysis.

1. STATISTICAL ANALYSIS.

While the investigation in Chapter III has used an operation similar to a "Q sort" which did achieve a level of ordinal data, i.e. by the grouping of response cards, labeling and ordering them in terms of perceived importance, a more rigorous procedure would be to use factor analysis to get the best association of variables which would also best explain the variance accounted for by the resultant factors. With such a small sample we hope to but demonstrate the procedure (not to achieve a degree of confidence in the results) to be used when this project is initiated in the Indonesian Navy.

In addition to generating the variables or attributes for the superior department head, we want our sample to group these attributes into stacks which have common meaning. We then want the stack assessed a value as noted in Figure A.1.

1	2	3	4	5
Not Important	Fairly Important	Somewhat Important	Very Important	Extremely Important

Figure A.1 Sample Scale.

In order to obtain an indigenous-assigned measurement to the competencies, question sessions should be conducted where the same sample population used in the ECHO technique are asked to assign the scale to each of the categories. Structure of the question in this session is different from the initial ECHO question. Each subject in the sample is asked to answer the following question:

"For each of the competencies listed below, rate each competency for its importance in managerial jobs in the Indonesian Navy at the department head level."

The hypothetical question form is shown in Table 13.

TABLE 13

SAMPLE SCALING QUESTIONNAIRE

"For each of the competencies listed below, rate each competency for its importance in managerial jobs in the Indonesian Navy at the department head level."

Demonstrate leadership	1	2	3	4	5
Disciplines	1	2	3	4	5
Initiates	1	2	3	4	5
Delegates	1	2	3	4	5
Exhibit self-control	1	2	3	4	5

After the data from this question session are collected, the next step is entering them into the computer.

Three elements of factor analysis need attention. First is the preparation of a correlation matrix where one dimension has the identifier of the observation and the other dimension has the rating or measure as made by the observer. Second is the stage of extracting the initial factors and looking at the variables which nest most tightly with those initial factors. Third is the rotation of the matrices to determine which are orthogonal to each other and which account for the most variance.

2. APPLICATIONS

Having offered the above caveats as to the robustness of the tool it is possible to proceed with descriptive data. See Table 8, Table 9 and Table 10 in Chapter III. Table 10 shows the ranking of responses by frequency of being mentioned.

The results of a demonstrative factor analysis are shown in the following tables: The percentage of variance accounted for by each variable is shown in Table 14.

TABLE 14

INITIAL STATISTIC

VARIABLE	COMMUNALITY	FACTOR	EIGENVALUE	PCT OF VAR	CUM PCT
KNOWJOB	1.00000	1	2.08796	19.0	19.0
COMSKILL	1.00000	2	1.97749	18.0	37.0
REALEXPT	1.00000	3	1.82598	16.6	53.6
TIMEMGT	1.00000	4	1.29784	11.8	65.4
ANALYTIC	1.00000	5	1.20767	11.0	76.5
CONSIST	1.00000	6	1.07544	9.8	86.1
REWARD	1.00000	7	.78411	7.1	93.2
DISCIPLE	1.00000	8	.55541	5.0	96.2
DEVSUBRD	1.00000	9	.21079	1.9	98.1
PLANORG	1.00000	10	.14555	1.3	99.4
RESOURCE	1.00000	11	.06177	.6	100.0

PC EXTRACTED 6 FACTORS.

The initial correlation of the variables by factor is described in Table 15.
If factors are limited to four factors, the matrices would load as shown in Table 16.

The next step is the most difficult with every summation of factor analysis. It is the labeling of the factor which are reported by the computer simply as, "I, II, III etc.

One may look at the variables (whose names were learned by the ECHO technique) and guess at a label which would be altogether exhaustive and non overlapping with other factor levels. An attempt at labels for the first four factors drawn from our data is shown in Table 17.

3. OTHER TREATMENTS OF DATA

There are still other treatments of data available to us (some of which are non-parametric). Guttman scales can be made if it is felt that the factor analysis needs scale which are close to the equivalent of interval scales [Ref. 19]. Goodman and Kruskal's Tau technique [Ref. 20] as a non-parametric substitute for interval scales. Friedman and Kruskal-Wallis's are also substitutes [Ref. 21].

TABLE 15
SIX FACTOR LOADINGS

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
KNOWJOB	.02047	-.18392	.55503	.07112	.00670	-.05994
COMSKILL	.01961	.53556	-.08424	-.00390	.06485	-.00853
REALEXPT	.55810	-.18213	.05653	.30514	-.10318	-.07459
TIMEMGT	-.26995	-.27297	-.21298	.18529	.26392	-.44175
ANALYTIC	-.06839	.09805	.42800	.02620	.18121	.06495
CONSIST	-.07585	-.07194	-.00792	.05312	.03458	.72307
REWARD	.42104	.17248	-.10494	-.16376	.04679	-.05720
DISCIPLE	.01293	.07200	-.12441	.25792	.42290	.14026
DEVSUBRD	-.11326	.35483	.02688	.14408	-.22984	-.22619
PLANORG	-.12509	-.03906	-.08472	-.63021	.11443	-.04976
RESOURCE	.06918	.08111	-.16323	.14454	-.62313	.05914

TABLE 16
FOUR FACTOR LOADINGS

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
KNOWJOB	-.00086	-.14541	.55484	.05681
COMSKILL	.11443	.50953	-.09628	-.05705
REALEXPT	.37580	-.21330	.12648	.17543
TIMEMGT	-.05217	-.17594	-.07278	.35871
RESOURCE	.04576	.17137	.37166	.04980
CONSIST	-.13024	-.00300	-.22109	.06948
REWARD	.39681	.05271	-.09280	-.22809
DISCIPLE	.23977	.15060	-.16970	.35921
ANALYTIC	-.15962	.32080	.10752	.03655
PLANORG	-.02429	-.02341	-.12588	.51371
DEVSUBRD	.29409	-.04765	-.11868	-.06987

Skinner and others developed an approach which used dimensional space rather than categories. They used replication to test the generality of the types of cluster in new samples [Ref. 22: p.49].

One problem of using these techniques is the inability to limit the total number of clusters or the best point of separating two clusters. Crudely put, there is no orthogonality between clusters [Ref. 21: p.61].

TABLE 17

SUMMARY TABLE

Concern for subordinates PC1	Logical thought PC2
Realistic expectations	Communication Skill
Use of rewards	Analytical thinking
Develop subordinates	
job accomplishment PC3	Future skills PC4
Knowledge of one's job	Plans and organizes
Optimal use of resources	Disciplines
Consistency	Time management

Thus far, Ward and associates have studied only two similarity measures: Eucledian distance and product-moment correlation coefficients. There is a great deal to be done to reduce overlap of clusters and the degree of confidence required.

The model for using factor analysis with the ECHO survey technique is shown in Figure A.2.

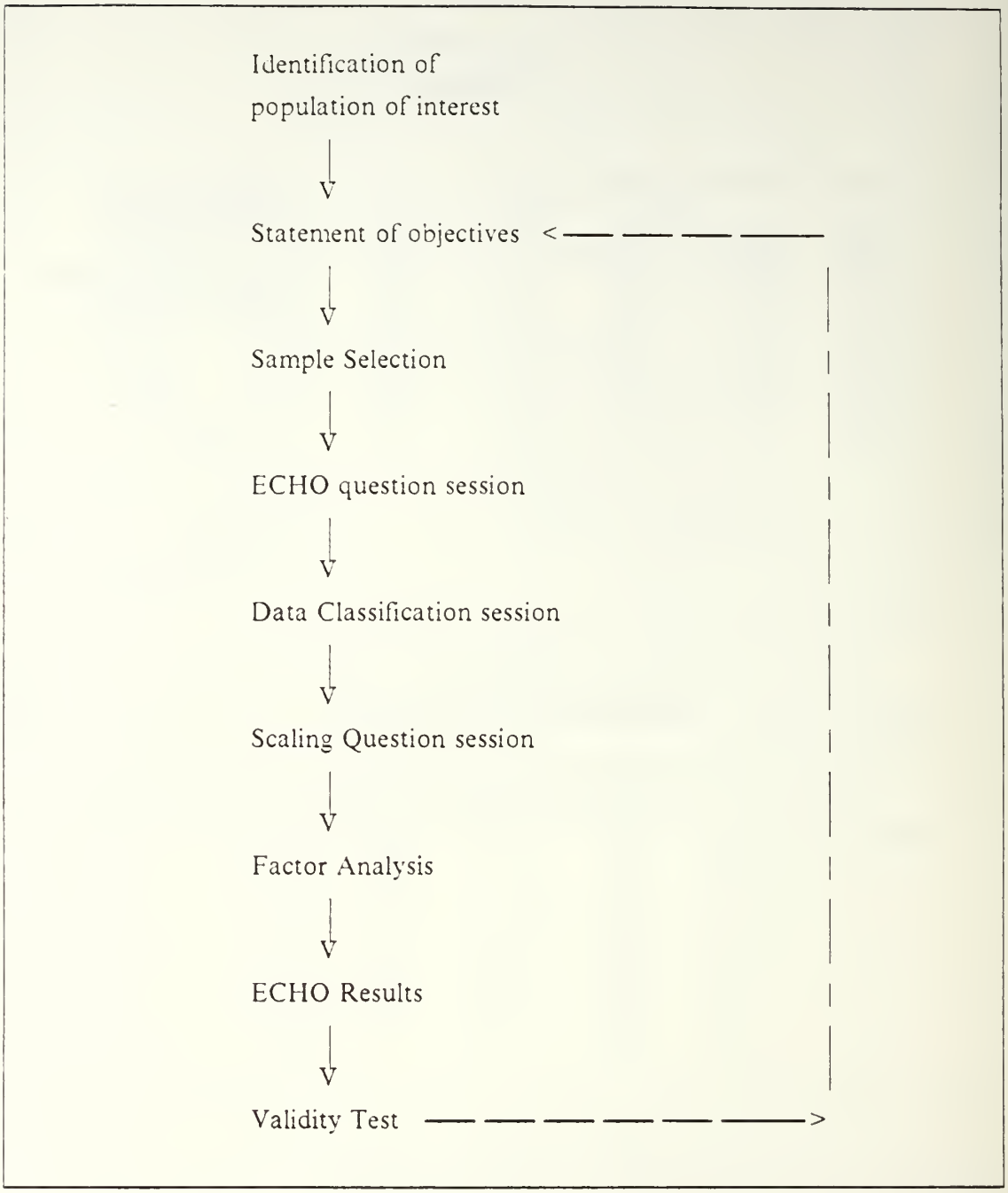

Figure A.2 A Model for Using Factor Analysis with the ECHO Survey.

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